

REMARKS

This constitutes Applicants' submission accompanying the concurrently filed Request For Continued Examination and is in response to the FINAL Official Action dated 7 October 2005 currently outstanding in the above-identified application, which Official Action.

Claims 1-37 were present in this application at the time of the issuance of the currently outstanding FINAL Official Action. The present Amendment amends Claims 1, and 21-22 and adds New Claims 38 and 39. No Claims have been canceled, and Claims 31-35 stand withdrawn. Accordingly, upon the entry of the foregoing Amendment, the claims under active prosecution in this application will be Claims 1-30 and 36-39.

The claims as they will stand upon the entry of the foregoing Amendment are set forth in full above including appropriate status identifiers and indications of the changes made as required by the Rules.

In the currently outstanding FINAL Official Action, the Examiner has:

1. Failed to acknowledged Applicants' claim of foreign priority under 35 USC 119(a)-(d), nor has he confirmed the safe receipt of the priority document for this application by the United States Patent and Trademark Office – **Appropriate acknowledgement and confirmation of these matters in response to this communication is respectfully requested;**

2. Failed to provide Applicants with any indication concerning the acceptability of the drawings as filed – **An indication concerning the acceptability of the drawings as filed in response to this communication is respectfully requested;**

3. Provided Applicants with a copy of the Form PTO-1449 that accompanied the Information Disclosure Statement filed with the above-identified application on 1 July 2003 (incorrectly designated in the summary of the Official Action as 7/11/2005) duly signed, dated and initialed by the Examiner to confirm his consideration of the art cited therein;
4. Rejected Claim 1-30, 36 and 37 under 35 USC 112, first paragraph, on the basis that the Examiner believes that a pair of wing portions are enabled by the specification, but only one wing portion is not enabled by the specification;
5. Rejected Claims 1-30, 36 and 37 under 35 USC 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP §2172.01, the omitted portion being a second wing portion;
8. Rejected Claims 6, 21, 22 and 30 under 35 USC 112, second paragraph, as being infinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention – specifically, the term “thickness” is deemed to be unclear in Claim 6, the term “optimal” is deemed to be unclear in Claim 21, the term “may be” is deemed to be indefinite in Claim 22, and the term “of a prescribed portion of said wing” is deemed to be indefinite in Claim 30;
9. Rejected Claims 1-5 and 8-29 under 35 USC §102(b) as being anticipated by Michelson (US Patent No. 6,082,671);
10. Rejected Claims 6-7 and 30 under 35 USC §103(a) as being unpatentable over Michelson in view of ordinary skill in the art; and
11. Failed to provide Applicants with any reasons for his rejections of Claims 36 and 37.

Further comment concerning items 1-3 above is not deemed to be required in these Remarks.

Applicants thank the Examiner for the courtesy accorded to their undersigned representative during a telephone interview held in regard to this application (and specifically the claims as hereinabove amended) on 20 December 2005.

During the course of that interview, Applicants' concern that this application is being rejected on the basis that the Michelson reference discloses a device that can "hover" when in fact no such device is actually disclosed in the reference (i.e., the reference discloses "hovering" only as a goal sought in the art) was discussed. In particular, Applicants' representative emphasized that the portion of the reference upon which the Examiner relies is located in the Background section of the Michelson patent as indicating something that is needed in the art and that the Examiner has failed to refer to any section of the Michelson reference wherein a "hovering" of the apparatus disclosed by Michelson is achieved. The Examiner responded that he deems the Michelson device to be "capable" of hovering such as for example Michelson's device would hover in the case that it was flying into a wind equal to its forward thrust.

The Examiner's comments to the effect that "elasticity" and "flexibility" are the same thing based upon an interpretation of a dictionary definition of those terms also was discussed. In this regard, Applicants' representative noted Applicants' understanding that "elasticity" is the definitive **structural** point in the present independent claims and one of the points that distinguishes the present invention from the art. Therefore, despite the Examiner's dictionary definitions concerning the meaning of the terms "flexibility" and "elasticity" as an abstract proposition, Applicants' representative suggested that those terms mean quite different things in the context of the present invention. In support of these arguments, Applicants' representative argued that in Michelson the wings are formed by a fabric-like component connected/supported by spars that can be variably inflated with a gas, and further that Michelson clearly indicates that this material/spar combination is flexible. Applicants' representative suggested however that the Michelson reference nowhere indicates (or discloses circumstances that would necessarily result in) his wings being elastically deformable as they are flapped up and down. In addition, it was noted that unless and/or until the Michelson spars are filled with gas to the point of becoming essentially rigid structures, his wings will deform as they flap by vertical flexure as well as by at least the rearwardly extending spars deflecting toward each other as the interstitial material flexes (deforms) in a direction opposite to that in which the wing moves. Consequently, Applicants' representative argued that since the gas filled spars of the Michelson reference are not rigid yet bendable structures, their recovery from induced flexion will not be "elastic" in nature.

In essence, Applicants representative argued that not everything that “flexes” does so in a totally elastic fashion. A certain portion of the flexation of any particular structure normally does not spontaneously recover fully to its pre-flexed state (although in the case of reciprocating wings the reversal of movement may force a flexed wing all the way back to and beyond its original configuration at some point after its return to its original starting position (i.e., as the wing moves past its original starting position in the opposite direction to the direction in which it previously was moved therefrom)).

The Examiner’s position on this issue, however, was similar to that which he took with regard to “hovering” in that he indicated basic agreement with Applicants’ representative’s comments, but nevertheless took the ultimate position that the wings in Michelson “are capable” of being elastically deformed (i.e., deformed and returning to their pre-deformation shape).

Applicants’ representative went on to indicate that Applicants are claiming a device that will both hover and fly horizontally via a drive unit controlled by a control unit such that a lifting force generated by elastic wings and the horizontal motion of the lifted/lifting body are controlled between zero horizontal movement (i.e., hovering) and the full speed of horizontal flying movement that the apparatus is capable of achieving. In that regard, the amended wording of Claim 1 presented hereinabove was discussed. In particular, the functionality of the nature of the operation of the control unit previously indicated to be a concern by the Examiner was addressed by specifying that the force produced by the wing portion “includes a lifting component, and permissibly includes a thrust component” thereby tying the operation of the control unit more definitively to physical adjustments of the wing portion. Further, the new limitation concerning the angle of attack of the claimed elastic wing portion as compared with a rigid wing portion also was suggested to distinguish the present invention from the cited art.

It is Applicants’ understanding that the result of the latter discussion was that the Examiner indicated that subject to further consideration and/or search and discussion with his supervisors, he believed that Claim 1 as hereinabove amended would overcome the Michelson reference (which he currently believes to be the closest art).

Since the currently outstanding Official Action is a FINAL rejection and since a further search would be necessary before he could definitively allow the proposed claim set, however, the Examiner indicated that an Amendment After Final Rejection would not be entered and that further prosecution would require the filing of a Request for Continued Examination with an Amendment adding the claims discussed during the interview. Applicants now have adopted the Examiner's suggested course for the further prosecution of this application, and reconsideration of this application and allowance of the claims of this application as hereinabove amended is respectfully requested.

With particular regard to the currently outstanding rejections under 35 USC 112, Applicants have amended Claims 21 and 22 so as to change the phraseology "has the optimal value" to -- is determined -- in Claim 21, and so as to change the phraseology "may be" to -- is a -- in Claim 22. Applicants respectfully submit that these amendments overcome the Examiner's rejections of Claims 21 and 22 under 35 USC 112.

Finally, with regard to the remainder of the Examiner's rejections under 35 USC 112, Applicants respectfully **traverse** the Examiner's rejections. In each case, Applicants respectfully submit that one skilled in the art would have no difficulty in understanding the metes and bounds of the invention being claimed without the necessity of a resort to undue experimentation. Thus, Applicants respectfully submit that it is abundantly clear that "A rising and moving apparatus, comprising ...an elastically deformable wing portion associated with said body" encompasses the concept of first and second wing portions whether by virtue of the fact that the term "comprising" clearly indicates that the specifically claimed elements are not necessarily the only elements of the apparatus claimed, or by virtue of the fact that the term "wing portion" does not necessarily mean one wing (i.e., a wing portion could include wings on both sides of the body within its literal meaning). Hence, the wording of the claim does not require the further limitation suggested in the currently outstanding Official Action in order to meet the requirements of 35 USC 112. Further, Applicants respectfully submit that similar logic applies to the terms "thickness" and "prescribed portion of the wing" particularly when those terms are read in light of their associated specification. Accordingly, a decision withdrawing all of the currently outstanding rejections of this application under 35 USC 112 in response to this communication is respectfully requested.

Accordingly, in view of the foregoing Amendment and Remarks summarizing Applicants understanding of the positions taken by the Examiner during the recent interview in this application, Applicants respectfully submit that this application as amended above now is in condition for allowance. A decision so holding in response to this communication is respectfully requested.

Applicants also believe that additional fees beyond those submitted herewith are not required in connection with the consideration of this response to the currently outstanding Official Action. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge and/or credit Deposit Account No. **04-1105**, as necessary, for the correct payment of all fees which may be due in connection with the filing and consideration of this communication.

Respectfully submitted,

Date: December 29, 2005

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